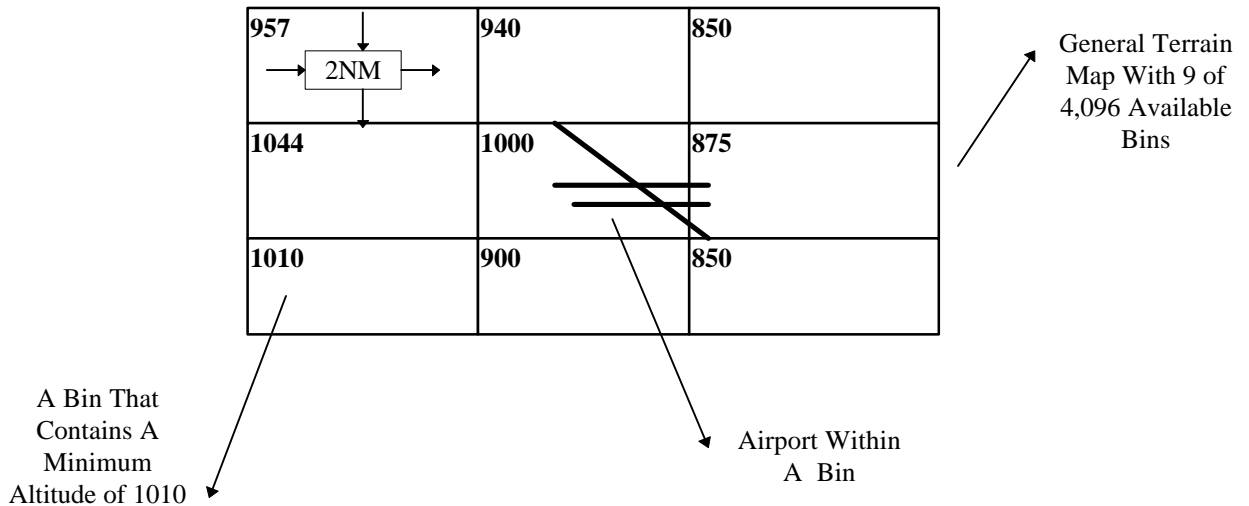# FLIGHT CHECK (AVN) PROFILE
SPREADSHEETS FOR
# MINIMUM SAFE ALTITUDE WARNING
(MSAW) SYSTEM

The Minimum Safe Altitude Warning System (MSAW) system is designed to generate an alert when an associated aircraft with Mode-C is at or predicted to be at an unsafe altitude. MSAW monitors aircraft for terrain and obstacle separation and will generate an alert, both aural and visual, to the display of the air traffic controller.

MSAW monitoring consists of two detection components: general terrain and approach path monitoring.

General Terrain Map (GTM): Within a radius of 55 nautical miles (NM) of each Airport Surveillance Radar (ASR) site exists a GTM. Each map contains 4,096 bins that are 2nm in width by 2nm in length. Each bin contains an assigned altitude that is determined by either the highest terrain or highest obstacle that affects that bin. A value of 500 feet is added to each bin altitude to make up the MSAW bin altitude. When an aircraft is currently below, predicted to be below, or projected to be below the MSAW bin altitude, an alarm is generated to the controllers display. GTMs are developed by the National Oceanic Atmospheric Association (NOAA) and distributed on a recurring basis to the FAA. Bin values are increased or decreased as new obstructions or terrain features change.

General Terrain Map With 9 of 4,096 Available Bins

A Bin That Contains A Minimum Altitude of 1010
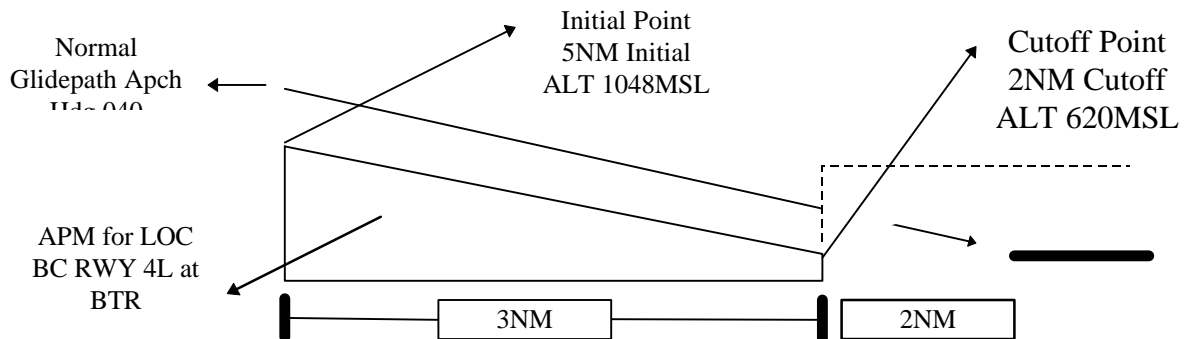
Airport Within A Bin

Approach Path Monitor (APM): APMs are designed to provide MSAW protection for aircraft utilizing precision, non-precision, and visual approaches that service airports that contain an ASR. Additionally, some satellite airports, containing precision or non precision approaches, within the ASR radar coverage area are adapted with MSAW APMs to select runways. The APM is normally 1nm wide, either side of the final approach course, or runway heading. An aircraft enters the APM at approximately 5nm (or final approach fix FAF) from the approach end of the runway. The APM terminates at approximately 1nm from the approach end of the runway. An altitude value is determined for each APM at the beginning (normally 5nm from the runway) and at the end of the APM (normally 1nm from the runway). These two values provide MSAW protection as an aircraft descends along the glide path towards the runway. An MSAW alarm would be generated to the controllers radar display if the aircraft's altitude is below programmed values.
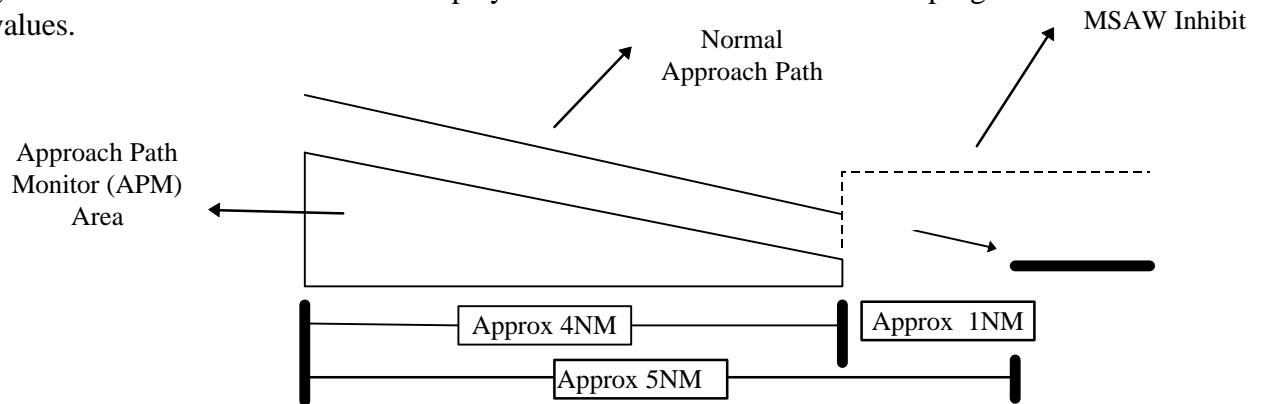
Each site file will contain an Excel spreadsheet with:

1. The airport name and location.
2. The MSAW inhibited beacon codes.
3. The MSAW adapted APMs with approach name, heading, APM initial point, APM intercept altitude, APM cutoff point, APM cutoff point, and APM cutoff altitude.
4. All MSAW adapted satellites and associated information for each that is contained in item 3 above.
5. See attachment for an example of the site profile spreadsheet and how it applies to the APM figure on this page. This data will be used to develop a flight check profile for each site to check that MSAW alarms properly for every adapted APM.

			Baton Rouge Metropolitan Ryan Field					
			Baton Rouge, Louisiana					
ARPT NAME	PRIM	SEC	APCHS	HDG	INT POINT	INT ALT	CUTOFF POINT	CUTOFF ALT
Baton Rouge	BTR		LOC BC Rwy 4L	40	5	1048	2	620
			ILS RWY 13	130	3.8	595	1	290
False River Airpark		LA30	LOC RWY 36	1	4.7	540	1	259

Normal Glidepath Apch Hdg 040

Initial Point 5NM Initial ALT 1048MSL

Cutoff Point 2NM Cutoff ALT 620MSL

APM for LOC BC RWY 4L at BTR

3NM

2NM

This document was developed by the MSAW Adaptation Review Team, AOS-620, on May 29, 1998.